

X *Ch. King*
afB

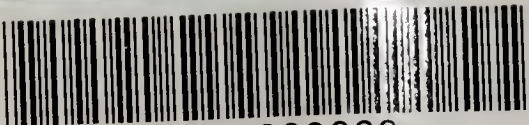
NOTES AND STATISTICS
ON
VACCINATION IN BURMA

FOR THE YEAR 1915-16



RANGOON
OFFICE OF THE SUPERINTENDENT, GOVERNMENT PRINTING, BURMA
1916

WELLCOME
LIBRARY
+
Ann Ron
QLW28
JM9
B916
1915-16



22501899960

NOTES AND STATISTICS
ON
VACCINATION IN BURMA

FOR THE YEAR 1915-16



RANGOON
OFFICE OF THE SUPERINTENDENT, GOVERNMENT PRINTING, BURMA
1916

LIST OF AGENTS
FOR THE
SALE OF GOVERNMENT PUBLICATIONS

IN INDIA:

THACKER, SPINK & Co., Calcutta and Simla.
W. NEWMAN & Co., Calcutta.
THACKER & Co., LTD., Bombay.
HIGGINBOTHAM & Co., Madras.
SUPERINTENDENT, AMERICAN BAPTIST MISSION PRESS, Rangoon.
*D. B. TARAPOREVALA SONS & Co., 103, Meadows Street, Fort Bombay.
BUTTERWORTH & Co. (India), Ltd., 8-2, Hastings Street, Calcutta.

IN ENGLAND:

HENRY S. KING & Co., 65, Cornhill, E.C.
A. CONSTABLE & Co., 10, Orange Street, Leicester Square, W.C.
KEGAN PAUL, TRENCH, TRÜBNER & Co., Ltd., 68—74, Carter Lane, E.C., and
25, Museum Street, W.C.
BERNARD QUARITCH, 11, Grafton Street, New Bond Street, W.
P. S. KING & SON, 2 & 4, Great Smith Street, Westminster, W.S.
GRINDLAY & Co., 54, Parliament Street, S.W.
T. FISHER UNWIN, 1, Adelphi Terrace, W.C.
W. THACKER & Co., 2, Creed Lane, Ludgate Hill, E.C.
LUZAC & Co., 46, Great Russell Street, W.C.
OLIVER & BOYD, Tweeddale Court, Edinburgh.
E. PONSONBY, Ltd., 116, Grafton Street, Dublin.
B. H. BLACKWELL, 50 & 51, Broad Street, Oxford.
DEIGHTON BELL & Co., LTD., Trinity Street, Cambridge.

ON THE CONTINENT:

ERNEST LEROUX, 28, Rue Bonaparte, Paris, France.
MARTINUS NIJHOFF, The Hague, Holland.

* For the sale of official publications excluding those of the Legislative Department of the Government of Burma.

[The maximum limit of the body of the Notes is 4 pages.]

TABLE OF CONTENTS.

NOTES AND STATISTICS ON VACCINATION IN BURMA FOR THE YEAR 1915-16.

								PARA	PAGE
Establishment	...	...	...	...	...	...	...	I	1
Punishments	...	...	...	...	...	...	...	2	<i>ib.</i>
Work performed during the year		...	...	...	...	...	...	3	<i>ib.</i>
Successful primary operations	...	...	...	...	...	...	...	4	<i>ib.</i>
Revaccination	...	...	...	...	...	...	...	5	2
Comparison of the amount of work performed in different districts	...				...	...	...	6	<i>ib.</i>
Dispensary vaccination	...	...	...	...	...	...	...	7	<i>ib.</i>
Vaccination in Jails	...	...	...	...	...	...	...	8	<i>ib.</i>
Verification	...	...	...	...	...	...	...	9	<i>ib.</i>
Compulsory vaccination	...	...	..	...	...	...	...	10	3
Voluntary vaccination	...	...	..	...	...	...	...	11	<i>ib.</i>
Cost of Department	...	...	...	...	...	...	...	12	4
Percentage of successful operations	...	..	...	...	...	...	...	13	<i>ib.</i>
Vaccine Dépôt, Meiktila, and training school		..	...	...	...	...	...	14	<i>ib.</i>



Digitized by the Internet Archive
in 2019 with funding from
Wellcome Library

<https://archive.org/details/b31496659>

NOTES AND STATISTICS

ON

VACCINATION IN BURMA

FOR THE YEAR 1915-16.

1. *Establishment*.—Native Superintendents of Vaccination on the Departmental Cadre numbered 41 against 44* in 1914-15. In addition 22 Sub-Assistant Surgeons drew allowances varying from Rs. 5 to Rs. 20 for verifying vaccination in Municipalities and notified areas. Three appointments of Native Superintendent of Vaccination were abolished, one in Moulmein Town and two in the Northern Shan States. The staff of vaccinators increased from 280 to 297. The new appointments created were two in the Northern Shan States, one each in Akyab, Thongwa, Ngathainggyaung, Moulmein and Tavoy Municipalities, and one in Mergui District for duty in the Victoria Point Subdivision. Fourteen appointments in the Rangoon Municipality under the designation of registrar-vaccinator have this year been included in the vaccination staff, the original three vaccinators' appointments having been abolished. Two vaccinators' appointments respectively in Thaton and Kyaikto towns were abolished.

Statement II.

2. *Punishments*.—Fifteen district vaccinators were removed or dismissed for disobedience of orders or falsification of diaries and returns.

3. *Work performed during the year*.—The total number of persons vaccinated in 1915-16 by special staff, *i.e.* District and Town vaccinators, was 459,047, against 459,122 in the previous 12 months; a decrease of 75.

Statements I and III.

In addition to this number 4,477 persons were vaccinated at dispensaries, 9,729 by private agencies and 26,175 in jails bringing the total on all counts up to 499,428.

The following analysis of results given in this section refers to operations performed by the first named agency only.

Primary operations amounted to 385,399, or 11,065 less than in 1914-15. The total of revaccinations was 74,446, an increase of 10,334.

4. *Successful primary operations*.—Successful primary operations numbered 362,492, which was 2,979 less than in the previous year. Successful revaccinations totalled 34,466, a decrease of 118.

Statement I.

The decrease in primary operations is more than covered by the less work performed in the Southern Shan States during the year under report than in the preceding year (*vide* sub-paragraph 11 below). The work in other districts has not been more uneven than is usually the case, and is on the whole in excess of that of the previous year.

Arakan Division shows a decrease of 1,680 primary successes, all districts except Sandoway sharing in the deficit.

In *Pegu Division* there was an increase in successful primary operations of 2,922, attributable to Rangoon Municipality (641), Hanthawaddy District (268), Pegu District (916), Prome District (1,363). In the two remaining districts the deficiency was almost nominal, that in Tharrawaddy being only 22 and in Insein District 244. The increase of successful work in Prome District is specially gratifying, since work in that district in recent years has not been so satisfactory as in some other districts of the division.

Irrawaddy Division returned an increase in primary successful operations of 5,469, shared between Ma-ubin District (1,252), Pyapon District (3,158), Henzada District (1,218), Myaungmya District (691). The increase in Pyapon District amounts to 68 per cent. of last year's total and is very much to the credit of the present Civil Surgeon, Dr. Aung Tun, who is making a sustained effort, assisted by the other administrative officers, to improve the position of vaccination in the district, which has hitherto been very backward.

Tenasserim Division.—Four out of the six districts shared in the increase of 2,447 successful primary operations; Amherst District with 1,310, Tavoy 972, Mergui 791 and Thaton 683. Toungoo District shows a falling off of 1,214 successful operations and Salween District of 95 only.

Mandalay Division.—A decrease of 5,139 successful primary operations is shared by four districts as follows: Mandalay 379, Bhamo 22, Katha 3,843, Myitkyina 1,049. Ruby Mines District shows an increase of 154.

Sagaing Division.—There is an increase of 2,297 successful primary operations; of these Shwebo District contributed 2,264, and Lower Chindwin 1,128, while there was a deficit in Sagaing District of 1,029, and in Upper Chindwin of 66.

Magwe Division.—Against a total decrease of 807 successful primary operations, Pakòkku District declares an increase of 2,016. The deficit is made up by Thayetmyo District (1,061), Minbu District (770) and Magwe District (992).

Meiktila Division.—There was a decrease in successful primary operations in three districts, amounting in the aggregate to 2,054. In Kyauksè District the decrease was only 5, in Yamèthin District 1,450 and in Myingyan District 783. Meiktila District returns an increase of 184.

Shan States.—The Northern Shan States returns an increase of 728 successful primary operations, under the new scheme of working instituted during the year, which has not yet had time to produce its full results. In the Southern Shan States there was a deficit of 7,923 successful primary operations. This material decrease from the work shown for the previous twelve months is mainly, I believe, due to the cessation of the vaccination campaign which was carried out during 1914-15 by a posse of vaccinators in the more accessible areas of the States, where direct supervision by superior officials could be more readily given on a sufficient scale. The exhaustion of the material available in those areas left less opportunity for work there during the year under report, and the method could not be applied as effectively in other areas.

Chin Hills.—An increase of 761 successful primary operations, about 75 per cent. of the returns of the previous year, shows that an appreciable degree of progress was made during 1915-16 in areas which owing to the scattered character of the population and their low state of civilization, combined with the smallness of the staff employed, present peculiar difficulties to the popularization of the operation.

Statement I.

5. *Revaccination.*—This operation, though holding a high place in perfecting the prophylaxis against small-pox of civilized populations, is relatively an unimportant issue in the survey of vaccination in Burma. It is in all areas voluntary among the free population, though compulsory in jails. Only under the stress of a serious outbreak of small-pox is it resorted to by any considerable numbers of the population. In the year under report every district shows a decline in the number of revaccinations except Pegu Division, where there was a large increase of 7,537 successful revaccinations in Rangoon City, and Meiktila Division, which returns an increase of 1,480 in Yamèthin District, in both instances the prevalence of small-pox being the direct cause of the rise in the number of the operations.

Statement I.

6. Credit is due to the vaccination staffs of all districts in Pegu and Irrawaddy Divisions, and of Amherst, Tavoy and Thatôn districts of the Tenasserim Division, in Lower Burma, and of Shwebo, Lower Chindwin, and Pakòkku districts in Upper Burma, for increasing their output of successful work, or maintaining it at the previous satisfactory level, during the year under review. It will be noticed that the deficit in Lower Burma districts was inconsiderable in any district other than Kyaukpyu (1,125) and Toungoo (1,214). In Upper Burma districts a serious decrease is noted in Katha, Myitkyina, Sagaing, Yamèthin, Myingyan, Thayetmyo, Magwe and Minbu districts. In addition to the indifference to the benefits ensuing from vaccination which invariably accompanies the freedom from prevalent small-pox among rural populations, these districts have been subjected to deterring influence of widespread cholera outbreaks, which in Upper Burma especially are antagonistic to the progress of the voluntary vaccination propaganda. This latter influence is advanced by several surgeons, and I think correctly, as an explanation of the falling off in the work of their vaccination staffs. In several districts the vaccinators had to be employed for one or two months to help in suppressing cholera. In addition to these deterrent influences there has to be taken into account the disturbing effect of the frequent changes of district medical officers which have been necessitated by the demands made upon the civil medical staff of the Province by the military services owing to the continuance of the war. When allowance has been made for the above cited disabilities to the maintenance of the work of the Vaccination Department, I am of opinion that the year's record for Lower Burma and for some districts in Upper Burma is one of the most satisfactory that it has fallen to me to review during the past nine years.

Statement III.

7. *Dispensary vaccination.*—The total number of persons vaccinated was 4,477. An increase of 1,393 on the previous year's record. Of this increase 1,145 were primary and 248 revaccinations. In successful primary operations there was an increase of 1,026, and in revaccinations of 430.

8. *Fail vaccination.*—These operations are not shown in either of the statements in the appendix. The total operations numbered 26,175 against 26,475 in 1914-15, and successful operations 16,455 against 17,765. The percentage of successes was primary 70.67, revaccinations 62.17.

Statement V.

9. *Verification.*—Out of 394,791 persons subjected to primary vaccination by all the agencies, civil surgeons and other superior inspecting officers verified

46,676, or 11·82 per cent.; Native Superintendents verified 193,786 or 49·09 per cent. The corresponding ratios for 1914-15 were civil surgeons, etc., 17·22 per cent. and Native Superintendents of Vaccination 56·75 per cent. Of the total persons primarily vaccinated 60·91 per cent. were verified. Of revaccinations, civil surgeons verified 7·75 per cent. and Native Superintendents of Vaccination 49·24 per cent.

The falling off in the verification work performed by civil surgeons and other superior officers may partly be due to the absence on military duty of one Deputy Sanitary Commissioner and many of the more experienced civil surgeons during the year. Newly appointed District Medical Officers would be less able to give time during the earlier months of duty to making tours in the districts. The decrease in the verification work performed by Native Superintendents of Vaccination is not open to a similar explanation. It is partly accounted for by the diminution in the strength of the Native Superintendent staff.

10. *Compulsory vaccination.*—Vaccination is compulsory only in towns. The statement in Appendix B compares the number of infants available for vaccination and the number vaccinated during the year in 57 towns. The total registered survivors of births during the year was 19,398, and the number of infants vaccinated 20,951, an excess of 1,553 over the total survivors. This excess is mainly to be explained by neglect to register births, and by the inclusion in the total of visitors to the towns. Appendix B

Towns showing the largest excess of vaccinated infants over the number of survivors of registered births are Rangoon 658, Moulmein 236, Syriam 134, Mandalay 1,297, Pyinmana 225, Yamèthin 104, Myingyan 163. In Upper Burma towns defective registration is the probable explanation of the excess as is often indicated by a relatively low registered birth-rate. This has frequently been noticed in the case of Pyinmana, Pyawbwè and Yamèthin.

Defective vaccination is a prominent feature of the returns of Prome, 238 only being vaccinated out of 584 survivors, a deficit of 346 or 59·25 per cent.; Thongwa, deficit 50·30 per cent; Zigôn of 40·70, Nattalin of 45·83, Kyangin of 63·04, Bhamo 47·10, Yenangyaung of 62·69 per cent. Enquiry will be made into the cause of these low vaccination ratios where not already satisfactorily explained.

In 57 towns 31,973 primary successful operations at all ages were reported, an increase of 468 upon the returns of 1914-15. In a considerable number of towns the excess over the previous year of successful work performed marks a praiseworthy increase of activity on the part of the town vaccination staff. Special credit is to be given to the staffs of towns in Ma-ubin, Myaungmya and Pyapôn districts. In Myaungmya and to a less extent in Wakèma the improvement was very great; and in Pyapôn and Kyaiklat it was marked. On the other hand, an almost equal number of towns show a falling off in vaccination work, among the most noticeable being Pegu with a deficit of 648 successful primary operations, nearly 50 per cent. of last year's total; Yenangyaung (252), only 91 successes against 343 in the previous year; Paungdè (128); all the towns in Tharrawaddy District except Letpadan; Thongwa (243, over 50 per cent. deficit).

11. *Voluntary vaccination.*—Until very recently none but the very vaguest conception could be formed as to the degree of protection against small-pox obtaining in any area of the Province as the result of vaccination. But within the last two years a system of investigation by taking a careful vaccination census of the child population of groups of villages has been adopted, at intervals, and in selected areas, which has yielded very useful results. The following statistical returns are samples of the information thus rendered available.

Lower Burma. Twante Subdivision, Hanthawaddy District.—In a group of ten villages, comprising a census population of 9,860 persons, inspected by my Deputy, Lieutenant-Colonel Lalor, I.M.S., the following results were obtained:—

Of the total estimated population aged 0-10, 85·20 per cent. were actually seen and 53·86 per cent. of this (estimated) population were found to be successfully vaccinated. Of the estimated population of infants, 88·73 per cent. were seen, and only 12·11 per cent. of the estimated total were found to be vaccinated. At ages 0-5 the percentage seen was 83·06, and the percentage of estimated total found vaccinated was 41·27. At ages 5-10, the percentages of the estimated total seen, and found to be successfully vaccinated, were respectively 87·83 and 53·86.

Upper Burma. Kyauksè District.—A population of 2,400 living in three village groups was subjected to a careful vaccination census by myself. Of the total estimated population aged 0-10, 70·88 per cent. were seen, and 56·62 per cent. found to be successfully vaccinated. Of estimated living infants 93·10 were seen, and 20·70 per cent. found to be successfully vaccinated. At ages 0-5, 76·74 per cent. of the estimated total were seen, and 56·13 per cent. found

protected by vaccination. Of the estimated population at ages 5-10, 63·73 per cent. were seen and 57·19 per cent. found protected by vaccination. Thus we find that, whereas of the total estimated population aged 0-1 a larger proportion was brought up for inspection in the Lower Burma District, in the case of infants this position was reversed, and a rather larger percentage of infants in Kyauksè District was found protected by vaccination. At 0-5 the percentage protected was higher in Kyauksè District, while at 5-10 Hanthawaddy District stood first. For the whole population inspected the protection afforded in Kyauksè District was slightly the higher, in both districts being over 50 per cent. As to the state of vaccination among absentees, nothing is known, but experience shows that nearly all vaccinated children below ten years of age are usually presented for inspection, while a considerable proportion of the unprotected are kept out of sight. Above the age of ten years it is impossible to collect more than a small proportion of the children, and nearly all of these are those who have been successfully vaccinated, so that the statistics obtained have little comparative value. In other areas of Lower and Upper Burma than those concerned in the analysis given above a far lower proportion were found to be vaccinated, and as a corollary a smaller proportion of the total estimated population at each age-period was made available for inspection.

Statement II.

12. *Cost of the Department.*—The total expenditure was Rs. 2,20,475-7-5, being Rs. 14,206-5-9 in excess of the expenditure in 1914-15. This excess is made up by increases under the following heads—Establishment, Rs. 8,270-4-9; Travelling allowance, Rs. 883-5-0; Contingencies, Rs. 5,052-12-0. Of this excess Rs. 11,753 was borne by Provincial Funds.

The excess under Establishment and Travelling allowance is accounted for by the increase in the staff of vaccinators and the grant of increments of salary to all grades. That under Contingencies was due to an increase under this head of expenditure by the Meiktila Vaccine Dépôt of Rs. 5,436-6-4 (excess cost of calves and larger number of students under training). The cost of each successful operation was increased by Re. 0-0-8.

Statement I.

13. *Ratio of successful to total operations.*—The percentage of primary operations of which results are known which proved successful was 97·14 against 94·93 in the previous year, and of re-vaccinations 57·18 against 60·46. These results are satisfactory.

14 *Meiktila Vaccine Dépôt.*—The new laboratory buildings were occupied on 1st April 1915. The old laboratory is used as a lecture room for students under training, for which purpose it is well suited.

The number of calves used was 345 against 282 in the previous year. Of these 24 were rejected after inoculation for various reasons. On ten occasions passage through rabbits was performed for the intensifying of the vaccine virus. Passage through healthy children and through a buffalo calf was also carried out for the same purpose.

The outturn of glycerinated lymph was 748,720 doses, against 776,432 in 1914-15. The amount issued for use of vaccination staffs and others was 722,314 doses which is less than in either of the two preceding years. This is accounted for by the low state of small-pox prevalence.

Attention is directed to the great waste of lymph in many districts. It appears that only about 65 per cent. of the lymph issued to the Province is actually used. Some waste must be expected, but steps will be taken to reduce it to the lowest possible ratio.

Experiments were made in storing lymph in the refrigerator for four months, at the end of which period the samples gave excellent results when inoculated into calves.

Training classes.—Sixteen Native Superintendents and forty vaccinators underwent training during the year. All of the latter and eight only of the former passed out at the end of their course. Four Native Superintendents passed after further training.

The Office of Director was filled by Captain L. K. Rodriguez for eleven months, and for the remaining period by Mr. W. D. Jones, and that of Assistant Director by First Grade Sub-Assistant Surgeon Rao Sahib Govinda Pillai. These officers sustained the previous high traditions of the Institution. The clerical and subordinate staff also worked well, and my thanks are due to all.

C. E. WILLIAMS, M.D., D.P.H., D.T.M.,

Lt.-Col., I.M.S.,

Superintendent-General of Vaccination, Burma.

APPENDICES.

	PAGE
Statement No. I.—Showing particulars of vaccination in the Province of Burma during the year 1915-16 	6
Statement No. II.—Showing the cost of the Vaccination Department in the Province of Burma during the year 1915-16 	10
Statement No. III.—Showing Dispensary vaccination in the Province of Burma for the year 1915-16 	12
Statement No. IV.—Showing the number of persons primarily vaccinated and the number of those persons who were successfully vaccinated in the Province of Burma in each of the official years 1906-07 to 1915-16 	14
Statement No. V.—Showing particulars of vaccination verified by Inspecting Officers during the year 1915-16 	<i>ib.</i>
Appendix A.—Showing the ratio per 10,000 successfully vaccinated and the mortality from small-pox by quinquennial periods for Lower Burma only 	16
Appendix B.—Statistics relating to the number of children under one year of age in towns available for vaccination and the number of successful operations performed on them 	<i>ib.</i>
Appendix C.—Diagram showing the proportion of population protected during the seven official years 1909-10 to 1915-16, and the death-rate from small-pox during the calendar year 1915 in districts where registration of vital statistics is in force ...	17

A.—VACCINATION

STATEMENT NO. I—Showing the particulars of Vaccination in the

No.	Districts.	Popula- tion of districts according to census of 1911.	Average popula- tion per square mile.	Average number of vacci- nators employ- ed through- out the year.	Total number of persons vaccinated.			Average number of per- sons vacci- nated by each vacci- nator.	PRIMARY VACCINATION.				
									Total.	Successful.			Un- known.
										Under one year.	One and under six years.	Total of all ages.	
1	2	3	4	5	6			7	8	9	10	11	12
ARAKAN DIVISION.													
1	Akyab ...	529,943	103	11	10,288	9,200	19,578†	1,757	18,454	2,976	9,597	15,493	2,068
2	Hill Tracts, Northern Arakan ...	22,234	15	2	403	386	69	45	638	...	188	512	14
3	Kyaukpadaung ...	184,916	42	6	4,058	3,977	7,155	1,193	5,611	615	2,144	5,036	241
4	Sandoway ...	102,803	27	4	1,941	1,577	3,518	880	3,172	216	1,316	1,551	...
	Total ...	839,896	57	23	16,690	14,250	30,940	1,34	27,875	3,807	13,285	23,632	2,323
PEGU DIVISION.													
5	Rangoon ...	203,316	10,476	15	37,849	4,424	42,273†	2,611	7,334	4,738	1,513	6,746	486
6	Insein ...	165,245	136	6	4,416	4,240	8,755	1,486	7,769	1,540	4,000	7,240	386
7	Hanthawaddy ...	334,669	116	7	5,551	5,400	10,951	1,565	9,805	1,292	5,313	9,433	302
8	Pegu ...	370,416	91	8	7,318	7,869	14,677	1,826	12,628	3,191	6,329	11,445	879
9	Tharrawaddy ...	433,320	151	8	9,349	1,637	19,336	2,498	19,310	7,519	9,534	18,646	28
10	Prome ...	378,871	130	12	6,335	6,621	12,956	1,080	12,445	3,088	7,603	11,331	538
	Total ...	2,073,737	166	56	70,820	38,141	109,611	1,910	69,371	21,028	34,477	64,831	2,629
IRRAWADDY DIVISION.													
11	Ma-ubin ...	105,073	185	9	8,355	8,517	16,872	1,378	14,680	2,763	9,301	14,239	279
12	Pyawon ...	253,215	119	6	4,309	4,425	8,734	1,456	7,930	1,502	5,577	7,794	76
13	Bassein ...	440,948	107	10	8,227	7,461	15,688	1,569	15,52	2,719	7,781	14,446	555
14	Henzada ...	532,357	187	14	10,523	10,995	21,523	1,537	20,869	6,633	11,411	19,446	1,019
15	Myaungmya ...	334,852	127	8	3,541	3,527	7,068	884	6,592	1,021	3,630	6,011	119
	Total ...	1,869,455	139	47	34,960	34,955	69,915	1,488	65,473	14,643	37,780	62,226	2,048
TENASSERIM DIVISION.													
16	Amherst ...	367,918	52	1	11,316	9,658	21,704	2,100	16,353	3,098	8,914	15,507	566
17	Tavoy ...	135,293	25	6	3,903	3,339	7,202	1,215	6,881*	3,718	2,313	6,125	49
18	Mergui ...	111,414	11	5	3,541	2,515	6,176	1,235	5,321*	467	2,440	4,743	208
19	Toungoo ...	351,076	57	9	6,326	6,515	11,881	1,320	11,071	1,815	4,973	10,696	174
20	Thaton ...	416,975	85	6	5,963	6,314	12,282	2,047	10,717	2,471	5,005	9,081	939
21	Salween ...	46,603	17	1	1,440	829	2,269	2,269	1,661	15	351	1,056	...
	Total ...	1,429,291	40	37	32,564	28,340	60,904	1,646	52,010	11,584	24,399	48,711	2,036
MANDALAY DIVISION.													
22	Mandalay ...	340,770	161	14	7,413	6,527	13,940	996	11,600*	8,343	2,954	11,335	49
23	Bhamo ...	107,811	16	4	1,314	1,181	2,495	621	2,17	361	1,202	2,104	190
24	Katha ...	193,193	28	4	3,031	2,717	5,748	1,437	5,748	638	3,542	5,579	38
25	Ruby Mines ...	100,618	18	3	2,296	1,993	4,299†	840	4,227	589	1,555	2,393	1,718
26	Myittha ...	85,577	8	2	694	613	1,307	653	1,157	142	562	1,049	99
	Total ...	832,969	26	27	14,748	13,011	27,779	963	25,049	10,116	9,815	22,505	2,144
SAGAING DIVISION.													
27	Shwebo ...	356,363	62	8	6,224	6,303	12,532	1,567	12,446	3,353	8,067	12,032	69
28	Sagaing ...	312,111	171	7	7,049	8,788	15,837	2,62	12,262	6,456	5,504	12,005	166
29	Lower Chindwin ...	316,175	91	6	5,752	6,140	11,692	1,982	11,784*	8,015	1,671	11,760	...
30	Upper Chindwin ...	170,622	11	6	4,391	4,683	9,074	1,512	8,115	1,038	4,933	7,078	395
	Total ...	1,155,271	44	27	23,416	25,919	49,335	1,827	44,607	18,927	21,210	43,375	630
MAGWE DIVISION.													
31	Thayetmyo ...	248,775	52	8	5,056	5,003	10,119	1,235	9,101*	2,238	4,724	8,130	477
32	Pakokku ...	436,160	44	10	11,922	11,753	23,675	2,368	17,863	5,218	7,872	16,537	647
33	Minbu ...	263,939	80	7	3,622	3,868	7,40	1,070	7,368	2,814	3,071	6,663	579
34	Magwe ...	316,909	96	3	6,306	6,435	12,741	1,593	12,574*	7,292	4,440	12,284	75
	Total ...	1,265,283	59	28	26,906	27,119	54,025	1,637	46,906	17,622	20,107	43,514	1,778
MEIKTILA DIVISION.													
35	Meiktila ...	279,822	128	6	3,865	4,154	8,019	1,337	7,826	1,642	5,313	7,237	507
36	Yamethin ...	307,419	72	7	6,055	6,123	12,178	1,740	10,000	4,526	4,574	9,100	699
37	Kyaukse ...	141,426	111	3	2,263	1,522	4,785	1,595	4,965*	3,636	703	4,632	208
38	Myingyan ...	441,905	142	7	6,678	6,949	13,627	1,947	13,284	5,211	6,410	12,220	569
	Total ...	1,170,572	108	23	13,861	19,748	38,609	1,679	36,135	15,065	17,005	33,189	1,978
SHAN STATES.													
39	Northern Shan States ...	453,952	32	10	4,267	1,321	6,088	609	5,862	2,213	1,203	3,523	2,339
40	Southern Shan States ...	900,202	22	11	9,008	8,519	17,527†	1,135	15,613	1,734	6,817	15,136	310
	Total ...	1,359,154	25	21	13,275	10,340	23,615	884	21,515	3,947	8,020	18,659	2,649
41	Chin Hills ...	119,556	15	3	2,540	1,503	4,043	1,348	3,769	89	860	1,800	1,844
	GRAND TOTAL ...	13,115,217	52	297	254,780	213,996	468,776	1,546	392,740	117,458	186,953	362,493	19,679

NOTE.—This statement does not include the figures for Dispensary
 * Secondary operation
 † Work done by other

DEPARTMENT.

Province of Burma during the year 1915-16 (Paragraphs 3, 4, 5, 6 & 13).

RE-VACCINATION.			PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		Persons successfully vaccinated per 1,000 of population.	PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.		AVERAGE ANNUAL NUMBER OF PERSONS SUCCESSFULLY VACCINATED DURING PREVIOUS FIVE YEARS.		AVERAGE ANNUAL NUMBER OF DEATHS FROM SMALL-POX DURING PREVIOUS FIVE YEARS.		No.
Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	
13	14	15	16	17	18	19	20	21	22	23	24	25
1,124	609	321	91.55	75.84	30.38	11.21	23.56	16,277	30.71	151	.29	1
51	33	3	86.86	63.75	25.86	2.19	5.88	1,043	47.11	...	...	2
1,514	419	302	91.90	83.71	29.82	4.50	19.56	11,176	60.39	132	.73	3
346	75	...	87.42	21.63	25.51	...	...	4,065	39.55	25	.25	4
3,035	1,133	636	92.68	46.58	29.55	8.33	20.42	32,565	33.76	308	.33	
3,039	15,322	11,301	99.97	66.91	77.15	6.72	32.25	21,022	71.36	286	1.00	5
986	289	152	98.6	31.65	23.9	4.97	15.42	4,062	...	...	...	6
1,049	508	210	98.23	60.55	29.89	5.05	20.02	7,358	18.25	56	.14	7
2,059	972	460	97.11	60.79	33.49	7.01	22.34	12,713	32.29	239	.64	8
596	410	25	98.30	71.80	43.93	.14	4.19	17,971	41.6	591	1.39	9
511	103	161	95.16	30.86	30.19	4.32	31.51	11,163	29.46	249	.79	10
40,240	18,169	12,309	97.14	65.05	40.02	5.79	30.59	74,290	36.04	1,481	.73	
2,222	401	319	98.88	21.07	47.99	1.90	14.36	11,568	37.92	68	.19	11
754	132	63	97.61	26.53	31.13	.95	9.02	3,676	14.34	130	.52	12
336	235	85	97.83	93.63	33.36	3.62	25.30	14,667	33.33	99	.23	13
681	199	150	97.81	37.43	36.55	4.83	22.03	18,931	35.54	138	.26	14
476	164	45	97.34	35.05	19.31	1.81	9.45	7,279	21.73	179	.55	15
4,469	1,181	667	98.11	31.06	33.92	3.13	11.93	56,121	30.03	604	.33	
4,651	1,913	659	95.23	43.00	47.36	3.46	14.17	23,294	63.30	260	.73	16
586	313	22	94.05	58.16	49.94	.71	3.75	5,186	38.37	5	.04	17
923	337	144	92.71	49.33	46.04	3.91	15.52	4,355	43.56	3	.03	18
810	326	181	99.06	51.83	31.39	2.47	22.35	9,493	26.90	150	.45	19
1,665	735	501	99.01	69.03	24.98	8.76	32.01	11,948	23.41	233	.59	20
608	290	...	99.70	47.70	41.75	...	...	1,315	23.24	...	...	21
9,148	3,982	1,507	97.47	52.11	36.87	3.91	16.47	55,991	39.12	656	.50	
2,374	1,373	105	98.56	60.51	37.44	.42	4.42	13,423	39.38	145	.42	22
178	60	53	93.92	43.00	20.07	8.20	29.78	3,271	30.31	...	...	23
...	...	...	97.71	...	23.15	.66	...	8,583	43.31	...	...	24
62	37	3	94.32	62.71	24.20	42.30	4.84	2,527	25.11	...	...	25
150	123	9	93.20	90.78	13.64	8.56	6.00	1,514	13.04	...	...	26
2,761	1,593	170	95.34	61.60	28.94	8.64	6.15	29,347	35.22	...	...
86	28	3	97.21	33.73	33.84	.55	3.49	11,649	22.63	125	.38	27
3,575	2,696	271	99.25	81.60	47.10	1.35	7.53	18,043	57.81	28	.09	28
705	154	7	96.80	77.78	37.68	...	3.41	11,443	36.20	11	.04	29
959	638	141	98.16	78.00	43.15	4.87	14.70	7,430	43.55	...	...	30
4,825	3,516	422	93.63	79.85	40.59	1.41	8.74	48,565	42.04	164	.17	
1,036	639	88	91.27	67.41	35.32	5.24	8.49	10,109	40.64	52	.21	31
5,812	792	88	96.06	13.84	39.73	3.62	1.51	16,634	38.25	40	.10	32
123	54	16	90.67	50.94	25.07	7.36	13.11	10,494	39.74	42	.16	33
223	142	2	93.23	62.83	29.21	.60	.88	16,924	53.39	73	.24	34
7,198	1,627	194	96.42	23.23	35.68	3.79	2.70	54,212	42.82	207	.17	
191	82	41	98.88	53.95	26.16	6.48	21.24	9,035	32.43	35	.13	35
2,118	1,584	277	97.21	86.04	34.75	6.95	13.03	10,349	33.66	106	.36	36
127	67	23	97.27	67.63	33.23	4.09	22.05	5,229	36.93	19	.13	37
343	71	69	96.11	25.91	27.81	4.28	20.12	14,001	31.68	45	.11	38
2,734	1,804	415	97.17	76.25	29.89	5.47	14.92	38,614	33.02	205	.18	
227	193	23	100.00	100.00	8.11	39.90	12.89	3,850	3.39	...	...	39
1,841	1,161	123	93.46	67.58	18.10	1.98	6.83	20,938	23.26	...	...	40
2,070	1,359	154	93.75	70.93	14.73	12.30	7.44	21,788	18.24	...	...
2.4	94	92	74.23	51.65	15.84	35.56	33.58	1,859	15.55	...	...	41
76,531	31,463	16,556	97.14	57.18	32.77	4.90	21.55	416,351	34.40	3,771	.39	

Vaccination which are shown separately in Statement III. included.
agencies included.

APPENDICES.

Summary.

	Total number of persons vaccinated.		Total number of operations performed.		Percentage of successful cases in which results were known.		Average number of persons vaccinated by each vaccinator.		Number of children successfully vaccinated.		Ratio of successful vaccinations per 1,000 of population.	Total cost of Department.	Average cost of each successful case.
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One year and under six years.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
												Rs. A. P.	Rs. A. P.
By special staff (Statement I).	384,601	74,446	385,399	74,446	97·11	56·70	297	1,546	116,049	184,335	32·18	220,475 7 5	0 9 1
By dispensary staff (Statement III).	2,849	1,628	2,857	1,628	97·50	76·20	...	...	570	1,293	·30	...	...
By other agencies, if any.	7,341	2,883	7,341	2,388	99·50	69·30	...	...	1,409	2,623	·59	...	...
Total ...	394,791	78,462	395,597	78,462	97·14	57·65	...	..	118,023	188,256	33·07	...	...

A.—VACCINATION

STATEMENT NO. II—Showing the cost of the Department in the

No.	Districts.	EXPENDITURE.										
		European super- vising officers.	Pay.	Native super- vising officers.	Pay.	Vaccinators.	Pay.	Clerks.	Pay.	Peons, etc.	Pay.	Total pay of establish- ment.
1	2	3	4	5	6	7	8	9	10	11	12	13
	ARAKAN DIVISION.		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.	Rs. A. P.
1	Akyab	2	1,027 14 6	11	3,040 9 6	...	...	...	...	...	...	4,068 7 11
2	Hill Tracts, Northern Arakan...	2	842 11 5	...	...	...	...	...	...	...	...	842 11 5
3	Kyaukpju	1	377 1 6	6	1,802 10 4	...	...	...	...	...	...	2,179 11 10
4	Sandoway	1	600 0 0	4	951 6 10	...	...	...	...	...	...	1,551 6 10
	Total	4	3,004 15 11	23	6,640 6 1	...	...	...	...	...	...	8,645 6 0
	PEGU DIVISION.											
5	Rangoon... ..	1	1,200 0 0	15	2,793 4 0	...	...	...	...	1	574 12 9	4,568 0 9
6	Insein	2	1,200 0 0	6	2,940 13 4	...	...	...	...	...	...	4,140 13 4
7	Hanthawaddy	3	440 0 0	7	3,066 7 2	...	...	...	...	...	...	3,506 7 2
8	Pegu	2	908 1 0	8	3,630 15 5	...	...	...	...	...	...	4,539 0 5
9	Tharrawaddy	6	1,260 0 0	8	2,277 8 0	...	...	...	...	...	...	3,537 8 0
10	Prome	1	900 0 0	12	4,009 12 6	...	...	...	...	...	...	4,909 12 6
	Total	15	5,908 1 0	56	18,868 12 5	...	...	...	...	4	574 12 9	25,341 10 2
	IRRAWADDY DIVISION.											
11	Ma-ubin	3	1,140 0 0	9	2,134 11 0	...	...	...	...	...	...	3,274 11 0
12	Pyapön	3	385 0 0	6	1,942 0 0	...	...	...	...	...	...	2,327 0 0
13	Bassein	2	714 8 8	10	2,808 11 6	...	...	...	...	...	...	3,523 4 2
14	Henzada	2	720 0 0	14	4,262 0 0	...	...	...	...	...	...	4,982 0 0
15	Myaungmya	2	582 9 3	3	1,733 13 9	...	...	...	...	...	...	2,321 7 0
	Total	12	3,542 1 11	47	12,886 7 3	...	...	...	...	...	...	16,428 9 2
	TENASSERIM DIVISION.											
16	Amherst	4	1,320 0 0	10	3,223 8 3	...	...	...	...	...	...	4,543 8 3
17	Tavoy	1	900 0 0	6	1,948 1 2	...	...	...	...	...	...	2,848 1 2
18	Mergui	1	590 8 3	5	1,199 0 0	...	...	...	...	...	...	1,789 8 3
19	Toungoo	1	600 0 0	9	2,679 1 11	...	...	...	...	...	...	3,279 1 11
20	Thatön	2	1,020 0 0	6	1,823 13 6	...	...	...	...	...	...	2,843 13 6
21	Salween ... ..	...	...	1	408 0 0	...	...	...	...	...	...	408 0 0
	Total	9	4,430 8 3	37	11,231 8 10	...	...	...	...	...	...	15,712 1 1
	MANDALAY DIVISION.											
22	Mandalay	2	1,020 0 0	14	6,703 7 6	...	...	...	...	...	...	7,723 7 6
23	Rhamo ... ..	...	...	4	1,475 8 2	...	...	...	...	...	...	1,475 8 2
24	Katha	1	216 2 1	4	1,220 10 5	...	...	...	...	...	...	1,436 12 6
25	Ruby Mines	1	1,170 0 0	3	1,169 0 0	...	...	...	...	...	...	2,339 0 0
26	Myitkyina ... ..	...	...	2	897 12 6	...	...	...	...	...	...	897 12 6
	Total	4	2,406 2 1	27	11,466 6 7	...	...	...	...	...	...	13,872 8 8
	SAGAING DIVISION.											
27	Shwebo	1	100 0 0	8	2,454 1 6	...	...	...	...	...	...	2,554 1 6
28	Sagaing	1	927 8 0	7	2,96 0 0	...	...	...	...	...	...	3,113 8 0
29	Lower Chindwin	1	900 0 0	6	1,826 0 0	...	...	...	...	...	...	2,726 0 0
30	Upper Chindwin	1	312 14 5	6	2,593 8 0	...	...	...	...	...	...	2,916 6 5
	Total	4	2,240 6 5	27	8,979 9 6	...	...	...	...	...	...	11,219 15 11
	MAGWE DIVISION.											
31	Thayetmyo	1	900 0 0	8	2,577 2 11	...	...	...	...	...	...	3,477 2 11
32	Pakokku	1	900 0 0	10	2,953 9 4	...	...	...	...	1	197 15 10	4,056 9 2
33	Minbu	2	470 0 0	7	1,998 8 11	...	...	...	...	...	...	2,468 8 11
34	Magwe	2	1,171 0 0	8	2,416 6 10	...	...	...	...	...	...	3,587 6 10
	Total	6	3,441 0 0	33	9,950 12 0	...	...	...	...	1	197 15 10	13,589 11 10
	MEIKTILA DIVISION.											
35	Meiktila	1	595 0 0	6	1,748 7 9	...	...	...	...	...	...	2,343 7 9
36	Yamethin	2	1,020 0 0	7	2,111 0 0	...	...	...	...	...	...	3,131 0 0
37	Kyaukse	1	736 11 8	3	943 2 8	...	...	...	...	...	...	1,679 14 4
38	Myingyan	1	600 0 0	7	2,071 0 0	...	...	...	...	...	...	2,671 0 0
	Total	5	2,951 11 8	23	6,873 10 5	...	...	...	...	...	...	9,825 6 1
	SHAN STATES.											
39	Northern Shan States	1	440 0 0	10	4,093 10 0	...	...	...	...	...	...	4,533 10 0
40	Southern Shan States	5	3,880 0 0	11	4,103 12 5	...	...	...	...	10	2,551 5 9	10,535 2 2
	Total	6	4,320 0 0	21	8,197 6 5	...	...	...	...	10	2,551 5 9	15,068 12 2
41	Chin Hills ... ..	...	...	3	1,166 0 5	...	...	...	...	...	...	1,166 0 5
42	Meiktila Vaccine Depot	1	1,906 7 3	1	1,987 4 2	...	1,082 2 9	2	1,783 1 1	11	1,781 3 9	11,945 10 8
43	Office of the S. G. V., Burma... ..	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL	1	1,906 7 3	166	36,637 11 1	297	97,383 2 8	2	1,783 1 1	26	5,105 6 1	1,42,815 12 2

* These amounts represent the pay and travelling allowance of Native Superintendents

† Cost of medicines, instru

‡ This amount represents stipendiary allowance

§ Includes twenty-three Sub-Assistant Surgeons, one Superintendent in charge of Vaccine Depot, Rangoon Municipality, one

| The average cost in this column is calculated on the total number of successful

DEPARTMENT.

Province of Burma during the year 1915-16 (Paragraph 12).

Travelling allowance.	Contingen- cies.	Total cost.	PAID FROM					Total.	Number of all success- ful vaccinations and re-vaccinations.	Average cost of each successful case.¶	No.
			Imperial Funds.	Provincial Funds.	Local Funds.	Municipali- ties.	Native States.				
14	15	16	17	18	19	20	21	22	23	24	5
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs. A. P.	
2,438 0 0	124 3 8	6,620 11 7	.....	.....	5,849 5 9	771 5 10	.....	6,620 11 7	15,863	0 8 8	1
313 10 0	.....	1,156 5 5	.....	1,156 5 5	.....	.....	.....	1,156 5 5	575	2 0 2	2
1,839 9 2	42 15 0	4,062 4 0	.....	.....	3,886 4 0	176 0 0	.....	4,062 4 0	5,515	0 11 9	3
596 0 11	.....	2,150 7 9	.....	1,100 0 0	930 7 9	120 0 0	.....	2,150 7 9	2,626	0 13 1	4
5,177 4 1	167 2 8	13,989 12 9	.....	2,256 5 5	10,666 1 6	1,067 5 10	.....	13,989 12 9	21,584	0 9 1	
195 2 6	2,972 2 4	7,735 5 7	.....	420 0 0	.....	7,315 5 7	.....	7,735 5 7	20,671	0 6 0	5
2,195 14 3	69 5 0	6,406 0 7	.....	.....	5,873 0 10	532 15 9	.....	6,406 0 7	7,529	0 13 7	6
2,964 0 0	152 13 0	6,723 4 2	.....	.....	5,477 9 0	245 11 2	.....	5,723 4 2	9,941	0 9 3	7
2,914 0 11	282 3 0	7,785 4 4	.....	.....	6,323 4 4	852 0 0	.....	7,785 4 4	12,447	0 10 0	8
1,970 14 6	100 0 0	5,608 6 6	.....	.....	4,943 6 6	660 0 0	.....	5,608 6 6	19,056	0 4 9	9
1,650 6 6	.....	6,650 3 0	.....	.....	5,273 3 0	1,377 0 0	.....	6,650 3 0	11,439	0 9 4	10
10,990 6 8	3,576 7 4	39,908 8 2	.....	420 0 0	28,505 7 8	10,983 0 6	.....	39,908 8 2	81,043	0 7 11	
2,329 13 9	.....	5,601 11 9	.....	.....	4,952 10 9	652 1 0	.....	5,601 11 9	14,640	0 6 2	11
1,425 8 3	25 10 0	3,778 2 3	.....	.....	2,933 2 3	815 0 0	.....	3,778 2 3	7,976	0 7 7	12
1,574 15 0	.....	5,098 3 2	.....	.....	4,183 13 1	914 6 1	.....	5,098 3 2	14,711	0 5 7	13
2,698 9 11	.....	7,680 9 6	.....	.....	6,255 11 0	1,424 14 0	.....	7,680 9 6	19,615	0 6 3	14
1,524 5 3	54 4 6	3,900 0 9	.....	.....	3,427 6 9	472 8 0	.....	3,900 0 9	6,165	0 9 8	15
9,553 3 3	79 14 6	26,061 10 11	.....	.....	21,782 13 10	4,278 13 1	.....	26,061 10 11	63,407	0 6 7	
2,515 12 8	144 10 0	7,203 14 9	.....	.....	5,873 4 8	1,330 10 1	.....	7,203 14 9	17,423	0 6 7	16
2,040 4 0	141 2 0	5,029 7 2	.....	.....	4,338 5 6	661 1 8	.....	5,029 7 2	6,156	0 11 11	17
1,348 12 0	1 1 6	2,189 5 9	.....	.....	2,847 12 3	291 9 6	.....	3,139 5 9	5,180	0 9 9	18
1,478 13 6	1 15 0	4,759 14 5	.....	.....	4,039 10 5	720 4 0	.....	4,759 14 5	17,022	0 6 11	19
2,662 14 0	.....	5,506 11 6	.....	.....	5,302 11 6	204 0 0	.....	5,506 11 6	10,116	0 8 6	20
451 14 6	.....	872 14 6	.....	265 2 6	607 12 0	.....	.....	872 14 6	1,948	0 7 2	21
10,511 6 6	288 12 6	26,512 4 1	.....	265 2 6	23,039 8 4	3,207 9 3	.....	26,512 4 1	52,993	0 8 1	
1,283 4 0	27 12 0	9,034 7 6	.....	3,553 9 6	420 0 0	5,060 14 0	.....	1,034 7 6	12,758	0 11 4	22
703 9 0	10 15 6	2,190 0 8	.....	1,850 15 0	.....	339 1 8	.....	2,190 0 8	2,164	1 0 2	23
790 14 9	9 8 0	2,237 3 3	.....	2,237 3 3	.....	.....	.....	2,237 3 3	5,579	0 6 5	24
1,241 10 8	.....	3,580 10 8	.....	2,921 10 2	.....	.....	659 0 6	3,580 10 8	2,455	1 7 6	25
456 2 6	.....	1,302 15 0	.....	1,392 15 0	.....	.....	.....	1,392 15 0	1,167	1 3 1	26
4,514 8 11	48 3 6	18,435 5 1	.....	11,956 4 11	420 0 0	5,399 15 8	659 0 6	18,435 5 1	24,103	0 12 3	
1,404 9 0	.....	3,958 10 6	.....	3,659 10 6	.....	299 0 0	.....	3,958 10 6	12,060	0 5 3	27
1,641 15 0	.....	4,765 7 0	.....	4,525 7 0	.....	240 0 0	.....	4,765 7 0	14,701	0 5 2	28
1,097 1 0	.....	3,823 1 0	.....	3,463 1 0	.....	360 0 0	.....	3,823 1 0	11,914	0 5 4	29
1,293 15 0	11 12 0	4,122 1 5	.....	4,122 1 5	.....	.....	.....	4,122 1 5	8,416	0 8 0	30
5,437 8 0	11 12 0	16,669 3 11	.....	15,770 3 11	.....	899 0 0	.....	16,669 3 11	46,591	0 5 8	
1,771 15 0	57 7 0	5,306 8 11	.....	.....	4,607 8 11	699 0 0	.....	5,306 8 11	8,769	0 9 8	31
2,723 14 0	.....	6,785 7 2	.....	6,448 7 2	.....	337 0 0	.....	6,785 7 2	17,349	0 6 3	32
723 7 0	.....	3,193 0 5	.....	2,521 2 5	.....	670 14 0	.....	3,193 0 5	6,617	0 7 9	33
1,193 6 0	11 10 6	4,792 7 4	.....	3,763 2 11	.....	1,029 4 5	.....	4,792 7 4	12,416	0 6 2	34
6,417 10 6	69 1 6	20,076 7 10	.....	12,732 12 6	4,607 8 11	2,736 2 5	.....	20,076 7 10	45,141	0 7 1	
1,090 7 6	9 11 0	3,443 10 3	.....	3,197 10 3	.....	246 0 0	.....	3,443 10 3	7,319	0 7 6	35
1,285 9 6	12 9 8	4,429 3 2	.....	3,709 3 2	.....	720 0 0	.....	4,429 3 2	10,684	0 6 8	36
731 4 0	16 5 0	2,427 7 4	.....	2,427 7 4	.....	.....	.....	2,427 7 4	4,699	0 8 3	37
817 6 0	.....	3,488 6 0	.....	2,852 11 0	.....	635 11 0	.....	3,488 6 0	12,291	0 4 6	38
3,924 11 0	38 9 8	13,788 10 9	.....	12,186 15 9	.....	1,601 11 0	.....	13,788 10 9	34,993	0 6 4	
2,596 0 7	14 2 0	7,143 12 7	.....	3,666 4 10	.....	.....	3,477 7 9	7,143 12 7	3,721	1 14 9	39
3,373 1 0	68 5 0	13,976 8 2	.....	13,976 8 2	.....	.....	.....	13,976 8 2	11,395	1 3 7	40
5,669 1 7	82 7 0	21,120 4 9	.....	17,642 13 0	.....	.....	3,477 7 9	21,120 4 9	15,116	1 6 4	
426 5 0	.....	1,592 5 5	.....	1,592 5 5	.....	.....	.....	1,592 5 5	1,894	0 13 5	41
718 5 0	.....	21,180 3 1	.....	21,180 3 1	.....	.....	.....	21,180 3 1	.....	.....	42
*175 8 6	8,340 15 11	.....	.....	.....	.....	.....	.....	.....	.....	.....	43
.....	1,140 10 8	1,140 10 8	.....	1,140 10 8	.....	.....	.....	1,140 10 8	.....	.....
63,815 10 0	13,844 1 8	2,20,475 7 5	.....	97,143 13 2	59,021 8 3	30,173 9 9	4,136 8 3	2,20,475 7 5	3,89,865	0 9 1	

of Vaccination of certain districts for the period of their training at Meiktila.
ments and uniforms.

given to apprentice vaccinators.

State official appointed by the *Sawbwa*, Hsipaw, Northern Shan States, and forty-one Native Superintendents of Vaccination,
vaccinations and re-vaccinations by the special staff only.

B.—DISPENSARY

STATEMENT No. III—*Showing Dispensary Vaccination in the*

No.	Districts.	Number of dispensaries in each district to which a vacci- nator is at- tached.	Average number of vaccinators attached to dispensaries during the year.	Total number of persons vaccinated.	Average number of persons vac- cinated by each vaccinator.	Total.
1	2	3	4	5	6	7
ARAKAN DIVISION.						
1	Akyab ... ..	.....	.....	.....	.....	.....
2	Hill Tracts, Northern Arakan ... ..	.....	.....	21	.....	17
3	Kyaukpyu ... ..	.....	.....	17	.....	3
4	Sandoway ... ..	.....	.....	51	.....	43
	Total ... ..	.....	.....	89	.....	63
PEGU DIVISION.						
5	Rangoon ... ..	.....	.....	.....	.....	.....
6	Insein ... ..	.....	.....	1,093	.....	54
7	Hanthawaddy (Syriam) ... ..	.....	.....	171	.....	153
8	Pegu ... ..	.....	.....	.....	.....	.....
9	Tharrawaddy ... ..	.....	.....	615	.....	439
10	Prome ... ..	.....	.....	.....	.....	.....
	Total ... ..	.....	.....	1,879	.....	646
IRRAWADDY DIVISION.						
11	Ma-ubin ... ..	.....	.....	178	.....	105
12	Pyapôn ... ..	.....	.....	.....	.....	.....
13	Bassein ... ..	.....	.....	.....	.....	.....
14	Henzada ... ..	.....	.....	.....	.....	.....
15	Myaungmya ... ..	.....	.....	236	.....	215
	Total ... ..	.....	.....	404	.....	320
TENASSERIM DIVISION.						
16	Amherst ... ..	.....	.....	237	.....	218
17	Tavoy ... ..	.....	.....	.....	.....	.....
18	Mergui ... ..	.....	.....	26	.....	26
19	Toungoo ... ..	.....	.....	78	.....	76*
20	Thatôn ... ..	.....	.....	.....	.....	.....
21	Salween ... ..	.....	.....	58	.....	43
	Total ... ..	.....	.....	399	.....	363
MANDALAY DIVISION.						
22	Mandalay ... ..	.....	.....	109	.....	73
23	Bhamo ... ..	.....	.....	.....	.....	.....
24	Katha ... ..	.....	.....	12	.....	8
25	Ruby Mines ... ..	.....	.....	.....	.....	.....
26	Myitkyina ... ..	.....	.....	652	.....	537
	Total ... ..	.....	.....	773	.....	663
SAGAING DIVISION.						
27	Shwebo ... ..	.....	.....	9	.....	8
28	Sagaing ... ..	.....	.....	.....	.....	.....
29	Lower Chindwin ... ..	.....	.....	150	.....	140*
30	Upper Chindwin ... ..	.....	.....	158	.....	145
	Total ... ..	.....	.....	317	.....	293
MAGWE DIVISION.						
31	Thayetmyo ... ..	.....	.....	.....	.....	.....
32	Pakôkku ... ..	.....	.....	28	.....	24
33	Minbu ... ..	.....	.....	.....	.....	.....
34	Magwe ... ..	.....	.....	61	.....	.....
	Total ... ..	.....	.....	79	.....	24
MEIKTILA DIVISION.						
35	Meiktila ... ..	.....	.....	83	.....	72
36	Yamèthin ... ..	.....	.....	.....	.....	.....
37	Kyauksè ... ..	.....	.....	.....	.....	.....
38	Myingyan ... ..	.....	.....	.....	.....	.....
	Total ... ..	.....	.....	83	.....	72
SHAN STATES.						
39	Northern Shan States ... ..	.....	.....	15	.....	15
40	Southern Shan States ... ..	.....	.....	297	.....	263
	Total ... ..	.....	.....	312	.....	278
41	Chin Hills ... ..	.....	.....	137	.....	130
	GRAND TOTAL ... ..	.....	.....	4,477	.....	2,657

*Includes secondary

VACCINATION.

Province of Burma for the year 1915-16 (Paragraphs 3 & 7).

PRIMARY VACCINATION.			RE-VACCINATION.				PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.		No.
Successful.			Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	
Under one year.	One and under six years.	Total of all ages.									
8	9	10	11	12	13	14	15	16	17	18	19
...
4	10	16	...	4	2	...	94.12	50.00	...	...	1
4	...	43	3	14	2	12	...	100.00	100.00	85.71	2
				8	1		100.00	12.50	...	...	3
8	10	59	3	26	5	12	98.33	35.71	4.76	46.15	4
...
...	1	54	...	1,039	883	4	100.00	85.31	...	...	5
35	83	127	26	18	5	7	100.00	45.45	16.99	38.89	6
95	309	433	4	176	45	4	99.54	26.16	91	2.27	7
...	...	...	...	...	...	...	...	...	...	...	8
130	393	614	30	1,233	933	15	99.68	76.60	4.64	1.22	9
11	40	74	15	63	32	27	82.22	88.89	14.29	42.86	10
...	...	...	...	...	...	...	...	...	...	...	11
...	...	...	...	...	...	...	...	...	...	...	12
43	98	198	13	21	11	4	98.02	64.71	6.05	19.05	13
54	133	272	28	84	43	31	93.15	81.13	8.75	86.90	14
65	118	191	27	19	9	1	100.00	50.00	12.39	5.26	15
...	...	...	...	...	...	...	...	...	...	...	16
2	6	15	3	...	...	...	65.22	...	11.54	...	17
5	37	73	...	5	4	...	96.05	80.00	...	...	18
...	...	...	...	...	...	...	...	...	...	...	19
...	12	42	...	15	6	...	97.67	40.00	...	...	20
72	173	321	30	39	19	1	96.40	50.00	8.26	2.56	21
44	24	73	...	36	36	...	100.00	100.00	...	...	22
...	...	...	...	...	...	...	...	...	...	...	23
...	2	2	6	4	...	4	100.00	...	75.00	100.00	24
48	91	452	124	65	36	23	97.62	85.71	21.12	35.38	25
92	117	527	130	105	72	27	97.96	92.31	19.46	25.71	26
4	4	8	...	1	...	...	100.00	...	...	...	27
...	...	...	...	...	...	...	...	...	...	...	28
64	63	137	1	15	8	...	98.56	53.93	71	...	29
27	104	134	2	13	11	...	93.71	84.62	1.38	...	30
95	171	279	3	29	19	...	96.21	65.52	1.02	...	...
...
11	11	24	...	4	...	...	100.00	...	...	...	31
...	...	...	...	...	...	...	...	...	...	...	32
...	...	...	...	51	31	7	...	70.45	...	13.73	33
11	11	24	...	55	31	7	100.00	61.68	...	12.73	34
22	33	65	7	16	3	13	100.00	100.00	9.72	81.25	35
...	...	...	...	...	...	...	...	...	...	...	36
...	...	...	...	...	...	...	...	...	...	...	37
...	...	...	...	...	...	...	...	...	...	...	38
22	39	65	7	16	3	13	100.00	100.00	9.72	81.25	...
1	6	15	...	...	...	...	100.00	...	...	...	39
72	153	234	26	34	30	1	98.73	90.91	9.89	2.94	40
73	164	249	26	34	30	1	98.81	90.91	9.35	2.94	...
13	82	125	...	7	4	...	96.15	57.14	...	...	41
570	1,293	2,535	257	1,628	1,159	107	97.50	76.20	9.00	6.57	...

operations.

COMPARATIVE STATEMENT NO. IV—*Showing the number of persons primarily vaccinated
Burma in each of the under*

Establishments.	PERSONS PRIMARILY VACCINATED.									
	Total number.	Number success-fully vac-cinated.	Total number.	Number success-fully vac-cinated.	Total number.	Number success-fully vac-cinated.	Total number.	Number success-fully vac-cinated.	Total number.	Number success-fully vac-cinated.
	1906-07.		1907-08.		1908-09.		1909-10.		1910-11.	
	1	2	3	4	5	6	7	8	9	10
Government	126,108	111,283	148,497	133,229	147,185	134,451	178,234	177,619	142,542	132,535
Municipal	59,352	48,431	48,060	41,811	43,072	38,908	45,573	44,057	37,145	32,308
Local Funds	167,418	148,271	138,772	119,609	133,167	122,307	112,135	90,744	154,649	142,461
Native States	6,833	5,739	5,203	4,330	6,991	5,262	10,081	6,581	13,177	10,462
Dispensary	10,690	7,180	10,443	7,457	7,562	5,287	5,475	4,304	8,268	7,304
Other Agencies * ... ..	..	..	..	..	..	..	..	..	..	..
ARMY.										
Europeans	24	14	59	36	37	35	68	56	102	62
Natives	281	148	408	279	455	896	306	269	190	153
Total	370,704	321,061	351,442	306,751	343,469	306,646	351,872	323,630	356,073	325,235

* Include operations performed by private practitioners, missionaries,

STATEMENT NO. V—*Showing particulars of Vaccination verified*

No.	Districts.	TOTAL NUMBER OF PERSONS VACCINATED.		TOTAL NUMBER INSPECTED			
				By Deputy Sanitary Com-missioner or Civil Surgeons.		By Native Superintendents or other Inspecting Officers.	
		Primary.	Re-vaccinations.	Primary.	Re-vaccinations.	Primary.	Re-vaccinations.
1	2	3	4	5	6	7	8
1	Akyab	18,454	1,124	1,099	.....	9,117	826
2	Hill Tracts, Northern Arakan	655	65	.....	.....	168	42
3	Kyaukpyu	5,614	1,558	262	122	1,601	205
4	Sandoway	3,215	364	1,578	189	2,886	329
5	Rangoon	7,234	35,089	800	1,619	5,436	20,439
6	Insein	7,823	2,025	1,855	157	5,722	427
7	Hanthawaddy	10,058	1,067	2,700	204	3,541	524
8	Pegu	12,628	2,069	1,069	236	9,894	1,424
9	Tharrawaddy	19,829	772	2,915	194	10,090	.....
10	Prome	12,445	511	2,660	87	4,438	218
11	Ma-ubin	14,785	2,285	876	.....	7,413	866
12	Pyapön	7,980	754	1,399	.....	2,678	161
13	Bassein	15,352	336	.....	.....	3,878	320
14	Henzada	20,842	681	1,240	139	6,993	277
15	Myaungmya	6,807	197	112	.....	2,051	242
16	Amherst	16,571	4,670	2,488	416	8,657	2,515
17	Tavoy	6,706	586	1,602	303	5,447	224
18	Mergui	5,274	928	73	46	2,855	684
19	Toungoo	11,144	815	372	32	5,375	415
20	Thatön	10,717	1,565	1,422	7	5,336	28
21	Salween	1,704	623	453	209	22	10
22	Mandalay	11,639	2,410	528	5	8,606	820
23	Bhamo	2,317	178	30	.....	102	47
24	Katha	5,756	4	300	.....	.....	.....
25	Ruby Mines	4,227	62	1,282	1	2,493	55
26	Myitkyina	1,744	215	102	50	1,496	132
27	Shwebo	12,454	87	393	.....	2,101	1
28	Sagaing	12,262	3,575	2,335	865	7,283	2,390
29	Lower Chindwin	11,822	220	1,885	71	8,848	62
30	Upper Chindwin	8,260	972	381	42	2,625	423
31	Thayetmyo	9,083	1,036	2,356	69	6,754	327
32	Pakókku	17,887	5,816	3,003	833	5,816	1,235
33	Minbu	7,368	122	316	.....	3,774	96
34	Magwe	13,513	279	4,821	.....	8,101	50
35	Meiktila	7,893	209	292	.....	2,235	17
36	Yamethin	10,060	2,118	533	26	6,037	1,226
37	Kyaukse	4,653	127	1,084	45	2,758	11
38	Myingyan	13,284	343	1,616	2	6,852	150
39	Northern Shan States	5,877	225	575	69	15	.....
40	Southern Shan States	15,946	1,878	671	12	14,798	1,368
41	Chin Hills	3,899	231	107	.....	.....	.....
GRAND TOTAL		394,791	78,462	46,676	6,080	193,786	38,636

and the number of those persons who were successfully vaccinated in the Province of mentioned official years.

RILEY VACCINATED.

Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Establishments.
1911-12.		1912-13.		1913-14.		1914-15.		1915-16.		
7		8		9		10		11		
166,142	158,306	184,794	174,075	171,608	158,632	166,653	150,189	149,953	139,601	Government.
44,023	40,089	35,714	34,275	33,098	31,476	33,005	30,815	32,795	31,123	Municipal.
193,961	180,546	186,353	171,957	210,401	192,887	192,408	175,416	198,458	184,045	Local Funds.
11,357	9,194	8,662	7,516	6,826	5,751	2,944	2,172	3,390	2,303	Native States.
5,786	5,431	5,966	5,518	3,573	3,077	1,704	1,509	2,849	2,535	Dispensary.
...	...	...	...	..	...	7,544	6,879	7,341	5,520	Other Agencies.
										ARMY.
47	40	62	59	69	64	42	80	25	25	Europeans.
388	338	464	393	255	224	253	174	655	513	Natives.
421,704	393,944	422,015	393,793	425,830	392,111	404,553	367,184	395,471	365,565	Total.

licensed vaccinators and Native State officials.

by Inspecting Officers during the year 1915-16 (Paragraph 9).

PERCENTAGE OF INSPECTIONS TO TOTAL NUMBER VACCINATED.				PERCENTAGE OF CASES FOUND SUCCESSFUL OF TOTAL NUMBER INSPECTED.				PERCENTAGE OF SUCCESS REPORTED BY VACCINATORS.		No.
By Deputy Sanitary Commissioner or Civil Surgeons.		By Native Superin- tendents or other Inspecting Officers.		By Deputy Sanitary Commissioner or Civil Surgeons.		By Native Superin- tendents or other Inspecting Officers.				
Primary.	Re-vaccina- tions.	Primary.	Re-vaccina- tions.	Primary.	Re-vaccina- tions.	Primary.	Re-vaccina- tions.	Primary.	Re-vaccina- tions.	
9	10	11	12	13	14	15	16	17	18	19
5.96	.....	49.40	73.49	83.71	.....	91.95	59.08	94.55	75.84	1
.....	.....	25.65	76.36	.....	.....	70.83	54.76	86.86	68.75	2
4.67	7.83	28.52	13.16	93.89	64.75	94.19	46.84	94.96	33.74	3
49.08	53.39	89.77	92.94	81.88	23.28	80.15	20.67	80.42	21.68	4
11.06	4.62	75.15	58.33	99.13	54.54	100.00	66.35	99.97	66.91	5
23.71	7.75	73.14	21.09	96.66	51.59	93.41	50.35	93.06	34.65	6
26.84	19.12	35.21	49.11	95.89	63.24	97.46	45.04	93.23	60.55	7
8.46	11.46	71.39	69.16	93.64	34.75	96.63	51.26	97.41	60.79	8
10.16	25.13	50.89	.....	99.26	82.47	97.76	.....	96.30	71.80	9
21.37	17.03	35.62	42.66	93.57	10.34	72.52	48.62	95.16	30.86	10
5.92	.....	50.14	37.90	93.04	.....	89.17	16.05	98.88	21.07	11
17.42	.....	33.56	21.35	98.06	.....	99.37	29.19	98.61	26.53	12
.....	.....	25.26	95.24	.....	.....	98.01	73.44	97.83	93.63	13
5.95	21.82	33.35	40.68	95.08	40.24	87.86	21.55	97.81	37.48	14
1.65	.....	30.14	43.69	100.00	.....	97.03	27.27	97.34	38.06	15
15.01	8.91	52.24	53.85	97.39	43.32	98.33	42.66	93.23	43.00	16
23.89	51.71	81.23	33.23	94.01	67.33	96.81	50.45	94.05	53.16	17
1.38	4.96	54.13	73.71	83.56	30.43	93.03	59.50	92.71	49.36	18
3.34	3.93	48.23	50.93	99.73	81.38	94.81	57.59	99.06	51.83	19
13.27	4.45	49.79	1.79	95.71	100.00	99.01	64.29	99.01	69.08	20
26.53	33.55	1.29	1.61	90.29	40.67	95.45	60.00	99.70	47.70	21
4.54	21	73.94	34.02	96.97	100.00	98.48	64.76	93.56	60.51	22
1.29	.....	4.40	26.40	86.67	.....	100.00	78.72	98.92	48.00	23
5.21	.....	.....	.....	100.00	.....	.....	.....	87.71	.....	24
30.33	1.61	58.98	88.71	71.29	100.00	95.03	63.64	93.32	62.71	25
5.85	23.26	85.78	61.40	96.08	92.00	81.43	68.94	98.20	90.73	26
3.18	.....	16.87	1.15	97.96	.....	59.16	.....	97.21	38.73	27
19.04	24.20	59.39	66.85	95.80	94.22	97.01	79.04	99.25	81.66	28
15.94	32.27	74.84	28.18	99.42	59.15	99.01	64.52	99.80	77.78	29
4.61	4.32	31.78	43.52	98.43	71.43	93.49	83.69	93.16	78.00	30
25.94	6.06	74.36	3.16	97.83	100.00	94.40	42.20	94.27	67.41	31
16.79	14.32	32.52	22.09	93.33	12.24	97.18	11.52	96.06	13.84	32
4.29	...	51.22	78.69	99.37	.....	95.95	54.17	96.67	50.91	33
38.53	.....	64.74	17.92	97.97	.....	97.53	38.00	98.23	62.83	34
3.70	...	28.30	8.13	98.63	.....	99.51	47.06	98.88	53.95	35
5.30	1.23	60.01	57.88	97.19	.....	98.69	86.22	97.21	86.04	36
23.27	35.43	59.21	8.63	97.51	100.00	90.75	36.36	97.27	67.68	37
12.17	53	51.58	43.73	98.21	.....	66.80	35.33	96.11	25.91	38
9.78	30.53	26	...	57.83	100.00	100.00	.....	100.00	100.00	39
4.21	54	92.80	72.84	90.76	33.33	98.05	63.84	98.46	67.58	40
2.74	.....	.....	.....	100.00	.....	.....	.....	74.23	51.65	41
11.82	7.75	49.09	49.24	95.43	54.29	94.05	60.33	97.14	57.18	

APPENDIX A.

Statement showing the ratio per 10,000 successfully vaccinated and the mortality from small-pox by quinquennial periods for Lower Burma only.

Official year.				Ratio per 10,000 successfully vaccinated.	Quinquennial mean.	Calendar year.				Ratio per 10,000 of mortality from small-pox.	Quinquennial mean.
1				2	3	4				5	6
1900-01	511.40	355.13	1900	6.86	3.72
1901-02	...	...	...	331.40		1901	...	...	...	4.61
1902-03	...	...	...	307.25		1902	...	...	...	2.91
1903-04	...	...	...	340.74		1903	...	...	...	2.38
1904-05	...	...	...	318.68		1904	...	...	...	2.46
1905-06	374.28	323.44	1905	10.48	6.20
1906-07	...	...	...	357.65		1906	...	...	...	14.69
1907-08	...	...	...	294.95		1907	...	...	...	2.87
1908-09	...	...	...	289.34		1908	...	...	...	1.39
1909-10	...	...	...	300.97		1909	...	...	...	1.57
1910-11	238.91	353.09	1910	3.27	5.10
1911-12	...	...	...	396.05		1911	...	...	...	9.13
1912-13	...	...	...	360.56		1912	...	...	...	9.61
1913-14	...	...	...	330.31		1913	...	...	...	2.87
1914-15	...	...	...	339.06		1914	...	...	...	.39
1915-16	360.44	...	191533	

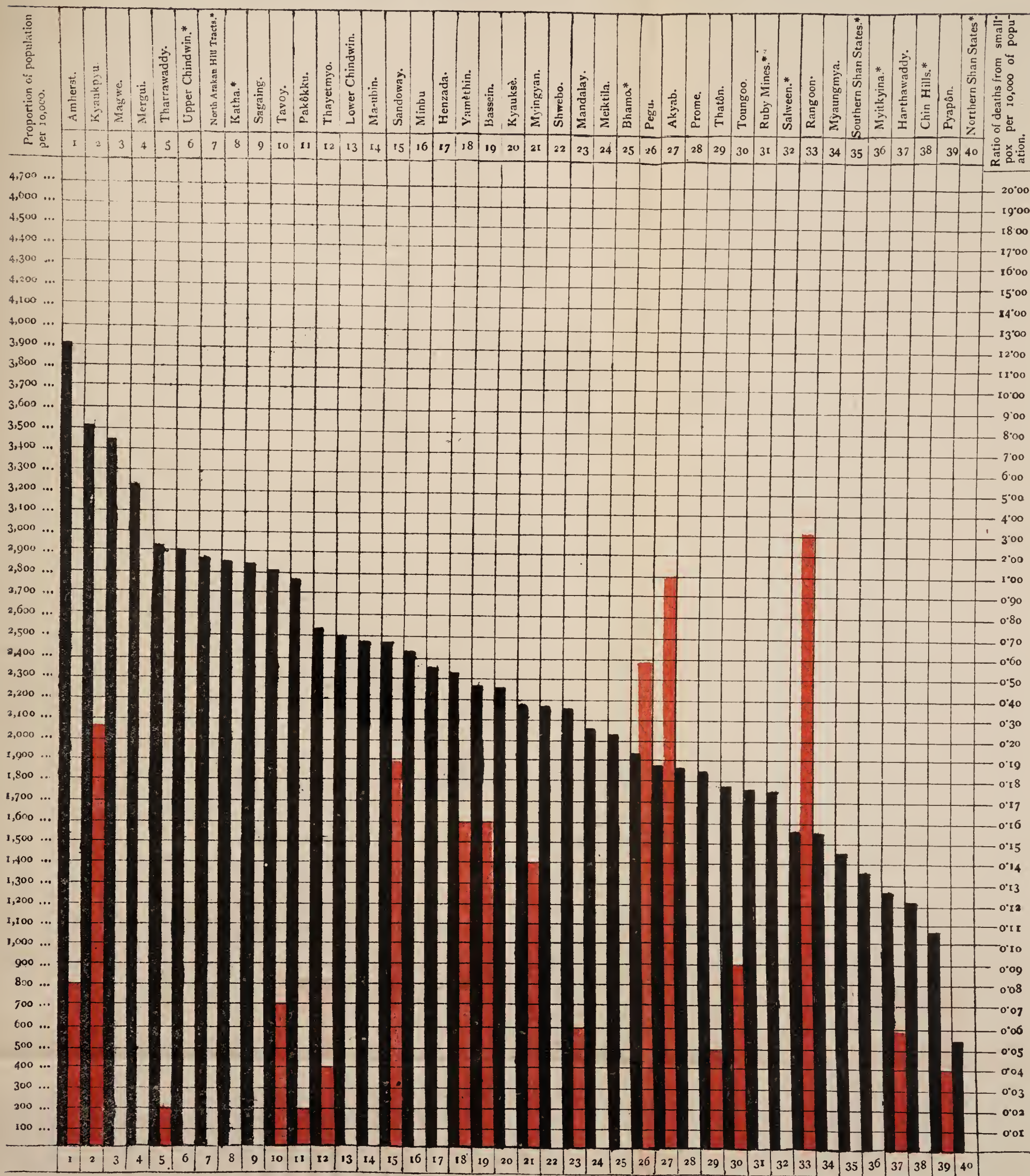
APPENDIX B.

Statement showing the number of vaccinations performed in Municipal towns and notified areas (to which Vaccination Act has been extended) on children under one year of age (Paragraph 10).

Towns.				Number of births during the year 1914-15.	Number of deaths among children under one year during the year 1914-15.	Number of successful operations on children under one year during the year ending 31st March 1916.	Date of extension of Vaccination Act into towns.
1				2	3	4	5
Akyab	...	...	...	603	200	427	August 1883.
Kyaukpau	...	...	...	72	15	37	April 1891.
Sandoway	...	...	...	122	23	47	September 1890.
Rangoon	...	...	...	5,689	1,609	4,783	April 1884.
Insein	...	...	...	277	70	186	14th March 1912.
Syriam	...	...	...	187	38	283	29th January 1913.
Thongwa	...	...	...	212	47	82	3rd March 1914.
Pegu	...	...	...	462	106	399	March 1893.
Nyaunglabin	...	...	...	160	77	146	29th March 1910.
Thonzè	...	...	...	281	62	263	October 1897.
Zigôn	...	...	...	215	43	102	11th May 1914.
Letpadan	...	...	...	223	70	195	January 1897.
Gyobingauk	...	...	...	190	73	106	February 1897.
Minhla	...	...	...	83	21	43	11th May 1914.
Nattalin	...	...	...	101	29	39	11th May 1914.
Prome	...	...	...	653	69	235	June 1890.
Paungdè	...	...	...	365	113	203	August 1890.
Ma-ubin	...	...	...	176	46	148	October 1891.
Yandoon	...	...	...	177	27	142	January 1892.
Danubyu	...	...	...	185	32	115	9th July 1909.
Pyapôn	...	...	...	180	13	250	November 1904.
Kyauklat	...	...	...	199	22	254	15th December 1904.
Bassein	...	...	...	836	263	455	September 1888.
Ngathaingyaung	...	...	...	199	39	124	February 1890.
Henzada	...	...	...	517	158	351	January 1889.
Myanaung	...	...	...	233	36	158	July 1889.
Kyangin	...	...	...	228	44	68	August 1894.
Myaungmya	...	...	...	123	23	60	June 1894.
Wakèma	...	...	...	197	45	96	27th April 1907.
Moulmein	...	...	...	1,327	224	1,339	August 1885.
Kawkaik	...	...	...	154	38	71	17th September 1914.
Tavoy	...	...	...	894	176	719	December 1889.
Mergul	...	...	...	452	116	244	October 1891.
Thatôn	...	...	...	424	89	309	October 1891.
Kyaukto	...	...	...	186	21	205	March 1897.
Toungoo	...	...	...	506	138	258	May 1889.
Shwegyin	...	...	...	177	40	166	January 1890.
Mandalay	...	...	...	4,571	2,105	3,763	August 1891.
Maymyo	...	...	...	299	81	142	October 1912.
Bhamo	...	...	...	170	32	73	26th October 1894.
Shwebo	...	...	...	284	105	125	June 1894.
Sagaing	...	...	...	371	98	180	April 1894.
Monywa	...	...	...	331	82	242	March 1893.
Thayetmyo	...	...	...	272	71	218	May 1889.
Allanmyo	...	...	...	287	76	243	May 1909.
Pakôkku	...	...	...	596	155	473	April 1892.
Minbu	...	...	...	213	39	138	March 1896.
Salln	...	...	...	260	64	184	March 1896.
Magwe	...	...	...	202	55	106	10th March 1913.
Taungdwingyi	...	...	...	206	90	101	February 1893.
Yenangyaung	...	...	...	250	57	72	10th March 1913.
Meiktila	...	...	...	224	83	120	June 1906.
Yamèthln	...	...	...	305	107	302	February 1892.
Pyinmana	...	...	...	503	148	580	November 1891.
Pyawbwè	...	...	...	148	72	106	May 1912.
Kyaukse	...	...	...	223	81	172	May 1894.
Myingyan	...	...	...	556	174	545	September 1891.
Total				27,541	8,143	20,951	

APPENDIX C.

Diagram showing the Proportion of Population protected during the seven official years from 1909-10 to 1915-16 and the death-rate from Small-pox during the calendar year 1915 in districts where registration is in force.



Indicates proportion of population protected per 10,000.

Indicates ratio of deaths from small-pox per 10,000 of population.

* Registration of vital statistics is not carried out in these districts.

NOTE—The proportion of population protected is based on the number of successful primary vaccinations only.

NOTES AND STATISTICS
ON
VACCINATION IN BURMA

FOR THE YEAR 1915-16



RANGOON
OFFICE OF THE SUPERINTENDENT, GOVERNMENT PRINTING, BURMA
1916